UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,443	09/16/2003	Tomohiro Yamaguchi	018656-678	9825

21839 7590 02/01/2011

BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER
VO, QUANG N

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
02/01/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
offserv@bipc.com

Office Action Summary	Application No.	Applicant(s)	
	10/662,443	YAMAGUCHI ET AL.	
	Examiner	Art Unit	
	Quang N. Vo	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Regarding claim 1, Applicant's argument is Ohuchi and Saitoh do not disclose or suggest a halftone-dot region determination unit or determination steps which determine if all small blocks in the large block have an isolated point contained therein, to determine whether a large block containing the small blocks is a halftone-dot region.

In response: Ohuchi discloses all small blocks in the specified large block have a number of isolated point contained therein (e.g., subdivides each block B into a plurality of small regions C.sub.i, fig. 16, and counts the number of extreme points indicating the peaks and the number of extreme points indicating the valleys for each small region C.sub.i of each block B, column 18, lines 17-21), based on the respective second numbers calculated by the small block isolated point calculation unit (e.g., When a number q of extreme points is obtained for each of the small regions C.sub.1 through C.sub.4 within the block B which comprises N.times.N picture elements as shown in FIG. 5 with respect to both the peak and valley, the number P of extreme points of this block B is regarded as P=0 if a number Q of small regions C.sub.i in which q=0 is greater than or equal to a predetermined value Q.sub.TH, column 19, lines 8-15).

Ohuchi differs from claim 1 in that he does not explicitly disclose if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit.

Saitoh discloses if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit (e.g., In the block production processing in S15301, one block is produced as a result of collecting (n.multidot.m) (9, in an example case) pixels constituting vertical n.multidot.horizontal m (3.multidot.3, in the relevant example) region. A plurality of thus obtained blocks are then used in determining whether or not each block in the entirety comprises the halftone -dot region. In this determination as to whether or not each block comprises the halftone -dot region, the relevant block is determined to comprise the halftone -dot region if one or more peak pixels exist in the block, column 111, lines 51-60. Thus each block must have at least one peak pixel to consider as the halftone dot region).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi to include if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit as taught by Saitoh. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi by the teaching of Saitoh to effectively determine the halftone dot region for printing production.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 6-8, 11-16, 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohuchi (US 5,025,481) in view of Saitoh et al. (Saitoh) (US 6,272,248).

Regarding claim 1:

Ohuchi discloses an image processing apparatus **(e.g., FIG. 3 is a system block diagram showing an embodiment of a dot region discriminating apparatus, column 5, lines 32-36)** that handles image data, comprising: a dividing unit **(e.g., the dot region detecting part 13, fig. 3)** for dividing image data into large blocks of a prescribed size **(e.g., dividing the input image into blocks B (e.g., fig. 6) each comprising N x N pixels, fig. 5, column 18, lines 15-17)** and further subdividing the large blocks into multiple smaller blocks (e.g., each block B is subdivided into the small regions C(i), figure 16, column 18, lines 17-18); a large block isolated point calculation unit **(e.g., the dot region detecting part 13, fig. 3)** for calculating a first number of isolated points contained in each large block established by dividing unit **(e.g., the dot region detecting part 13, fig. 3, discriminates whether or not a predetermined picture element within an object block B.sub.0 shown in FIG. 6 belongs to the dot region, based on the relationship between a number P.sub.0 of extreme points of the object block B.sub.0, column 18, lines 25-30)**; a small block isolated point calculation unit **(e.g., the dot region detecting part 13, fig. 3 (which is also functioning as a small block isolated point calculation unit)** for calculating a respective second number of isolated points contained in each small block established by dividing unit **(e.g., subdivides each block B into a plurality of small regions**

C.sub.i, fig. 16, and counts the number of extreme points indicating the peaks and the number of extreme points indicating the valleys for each small region C.sub.i of each block B, column 18, lines 17-21, figure 16); and a halftone-dot region determination unit **(e.g., the dot region detecting part 13, fig. 3)** for determining that a specified large block among the large blocks established by the dividing unit is a halftone-dot region **(e.g., the dot region detecting part 13, fig. 3, discriminates whether or not a predetermined picture element within an object block B.sub.0 shown in FIG. 6 belongs to the dot region, column 18, lines 25-28)**; if the first number of isolated points calculated to be contained in the specified large block by the large block isolated point calculation unit is greater than or equal to a first prescribed value **(e.g., the dot region detecting part 13, fig. 3, discriminates whether or not a predetermined picture element within an object block B.sub.0 shown in FIG. 6 belongs to the dot region, based on the relationship between a number P.sub.0 of extreme points of the object block B.sub.0 and numbers P.sub.1 through P.sub.8 of extreme points of surrounding blocks B.sub.1 through B.sub.8., column 18, lines 25-31. Note: Examiner interprets numbers P.sub.1 through P.sub.8 of extreme points of surrounding blocks B.sub.1 through B.sub.8 as being a first prescribed value)**.

Ohuchi discloses all small blocks in the specified large block have a number of isolated point contained therein **(e.g., subdivides each block B into a plurality of small regions C.sub.i, fig. 16, and counts the number of extreme points indicating the peaks and the number of extreme points indicating the valleys for each small**

region C.sub.i of each block B, column 18, lines 17-21), based on the respective second numbers calculated by the small block isolated point calculation unit **(e.g., When a number q of extreme points is obtained for each of the small regions C.sub.1 through C.sub.4 within the block B which comprises N.times.N picture elements as shown in FIG. 5 with respect to both the peak and valley, the number P of extreme points of this block B is regarded as P=0 if a number Q of small regions C.sub.i in which q=0 is greater than or equal to a predetermined value Q.sub.TH, column 19, lines 8-15)**,

Ohuchi differs from claim 1 in that he does not explicitly disclose if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit.

Saitoh discloses if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit (e.g., In the block production processing in S15301, one block is produced as a result of collecting (n.multidot.m) (9, in an example case) pixels constituting vertical n.multidot.horizontal m (3.multidot.3, in the relevant example) region. A plurality of thus obtained blocks are then used in determining whether or not each block in the entirety comprises the halftone -dot region. In this determination as to whether or not each block comprises the halftone -dot region, the relevant block is determined to comprise the halftone -dot region if one or more peak

pixels exist in the block, column 111, lines 51-60. Thus each block must have at least one peak pixel to consider as the halftone dot region).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi to include if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit as taught by Saitoh. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi by the teaching of Saitoh to effectively determine the halftone dot region for printing production.

Regarding claim 2, Ohuchi discloses wherein halftone-dot region determination unit is operable to determine that the specified large block is a halftone-dot region if the respective second number of isolated points in each small block contained in the large block is greater than or equal to equals or exceeds a second prescribed value (e.g., subdivides each block B into a plurality of small regions C.sub.i, and counts the number of extreme points indicating the peaks and the number of extreme points indicating the valleys for each small region C.sub.i of each block B, column 18, lines 17-21; and the region discrimination signal output part 14 outputs a discrimination signal which indicates whether each picture element belongs to the dot region or the line region based on the result of the detection made in the dot region detecting part 13, column 18, lines 32-36. Thus the dot region detecting part 13 must base on a prescribed value to compare with extreme points indicating the peaks and the number of extreme points indicating the valleys for each small region C.sub.i of each block B for the region

discrimination signal output part 14 outputs a discrimination signal which indicates whether each picture element belongs to the dot region or the line region).

With regard to claim 3, Ohuchi discloses wherein the second prescribed value is smaller than the first prescribed value (e.g., the larger numbers as the number of extreme points of block B, column 19, lines 8-21).

With regard to claim 6, Ohuchi discloses an image processing apparatus (e.g., a dot region discriminating apparatus, column 5, lines 32-36) that handles image data, comprising: a dividing unit for dividing image data into multiple small blocks (e.g., each block B is subdivided into the small regions, column 18, lines 17-18); a small block isolated point calculation unit for calculating a respective first number of isolated points contained in each small block established by dividing unit (e.g., the number q of extreme points is obtained for each of the small regions, column 18, lines 15-21); a large block isolated point calculation unit for calculating a second number of isolated points contained in a large block of the image data, the large block being composed of multiple smaller blocks based on an aggregated amount of the respective first number of isolated points calculated by small block isolated point calculation unit (e.g., the dot region detecting part 13 discriminates whether or not a predetermined picture element within an object block B.sub.0 shown in FIG. 6 belongs to the dot region, based on the relationship between a number P.sub.0 of extreme points of the object block B.sub.0, column 18, lines 25-30); and a halftone-dot region determination unit for determining that a specified large block among the large blocks established by the dividing unit is a halftone-dot region (e.g., the dot region detecting part 13 discriminates whether or not a

predetermined picture element within an object block B.sub.0 shown in FIG. 6 belongs to the dot region, column 18, lines 25-28) if all small blocks in the specified large block have an isolated point contained therein, based on the respective second numbers calculated by the small block isolated point calculation unit (e.g., subdivides each block B into a plurality of small regions C.sub.i, and counts the number of extreme points indicating the peaks and the number of extreme points indicating the valleys for each small region C.sub.i of each block B, column 18, lines 17-21), and if the second number of isolated points calculated to be contained in the specified large block by the large block isolated point calculation unit is greater than or equal to a first prescribed value (e.g., the dot region detecting part 13 discriminates whether or not a predetermined picture element within an object block B.sub.0 shown in FIG. 6 belongs to the dot region, based on the relationship between a number P.sub.0 of extreme points of the object block B.sub.0 and numbers P.sub.1 through P.sub.8 of extreme points of surrounding blocks B.sub.1 through B.sub.8., column 18, lines 25-31. Note: Examiner interprets numbers P.sub.1 through P.sub.8 of extreme points of surrounding blocks B.sub.1 through B.sub.8 as being a first prescribed value).

Ohuchi discloses all small blocks in the specified large block have a number of isolated point contained therein (e.g., subdivides each block B into a plurality of small regions C.sub.i, and counts the number of extreme points indicating the peaks and the number of extreme points indicating the valleys for each small region C.sub.i of each block B, column 18, lines 17-21), based on the respective second numbers calculated by the small block isolated point calculation unit (e.g., When a number q of extreme

points is obtained for each of the small regions C.sub.1 through C.sub.4 within the block B which comprises N.times.N picture elements as shown in FIG. 5 with respect to both the peak and valley, the number P of extreme points of this block B is regarded as P=0 if a number Q of small regions C.sub.i in which q=0 is greater than or equal to a predetermined value Q.sub.TH, column 19, lines 8-15), but he does not explicitly disclose if all small blocks in the specified large block have an isolated point contained therein, based on the respective first numbers calculated by the small block isolated point calculation unit.

Saitoh discloses if all small blocks in the specified large block have an isolated point contained therein, based on the respective first numbers calculated by the small block isolated point calculation unit (e.g., In the block production processing in S15301, one block is produced as a result of collecting (n.multidot.m) (9, in an example case) pixels constituting vertical n.multidot.horizontal m (3.multidot.3, in the relevant example) region. A plurality of thus obtained blocks are then used in determining whether or not each block in the entirety comprises the halftone -dot region. In this determination as to whether or not each block comprises the halftone -dot region, the relevant block is determined to comprise the halftone -dot region if one or more peak pixels exist in the block**,** column 111, lines 51-60. Thus each block must have at least one peak pixel to consider as the halftone dot region).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi to include if all small blocks in the specified large block have an isolated point contained therein, based on the respective second

numbers calculated by the small block isolated point calculation unit as taught by Saitoh. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi by the teaching of Saitoh to effectively determine the halftone dot region for printing production.

With regard to claim 7, the subject matter is similar to claim 2. Therefore the rejection on claim 7 is set forth as above claim 2.

With regard to claim 8, the subject matter is similar to claim 3. Therefore the rejection on claim 8 is set forth as above claim 3.

Referring to claim 11:

Claim 11 is the method claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 11 is rejected as set forth above for claim 1.

Referring to claim 12:

Claim 12 is the method claim corresponding to operation of the device in claim 2 with method steps corresponding directly to the function of device elements in claim 2. Therefore claim 12 is rejected as set forth above for claim 2.

Referring to claim 13:

Claim 13 is the method claim corresponding to operation of the device in claim 3 with method steps corresponding directly to the function of device elements in claim 3. Therefore claim 13 is rejected as set forth above for claim 3.

Referring to claim 14:

Claim 14 is the method claim corresponding to operation of the device in claim 6 with method steps corresponding directly to the function of device elements in claim 6. Therefore claim 14 is rejected as set forth above for claim 6.

Referring to claim 15:

Claim 15 is the method claim corresponding to operation of the device in claim 2 with method steps corresponding directly to the function of device elements in claim 2. Therefore claim 15 is rejected as set forth above for claim 2.

Referring to claim 16:

Claim 16 is the method claim corresponding to operation of the device in claim 3 with method steps corresponding directly to the function of device elements in claim 3. Therefore claim 16 is rejected as set forth above for claim 3.

With regard to claim 18, Ohuchi discloses substantially the claimed invention as set forth in the discussion above for claim 1.

Ohuchi does not disclose expressly a plurality of counters to count number of isolated points contained in a corresponding one of the small blocks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have a counter to count isolated points for each small block. Applicant has not disclosed that plurality of counters to count each small block provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a counter to count plurality of small blocks because both perform the same function of counting isolated points.

Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify Ohuchi with to obtain the invention as specified in claim 18.

With regard to claim 19, Ohuchi discloses wherein halftone-dot region determination unit comprises: a first determination unit for determining whether the calculated first number of isolated points in a large block equals or exceeds the first threshold value (column 6, lines 11-19); a second determination unit for determining whether each of plurality of isolated point counters of small block isolated point calculation unit have each counted at least one isolated point in the corresponding small block contained in the large block (column 18, lines 15-21); and a third determination unit for determining whether the large block is a halftone-dot region based on the determination results of first determination unit and second determination unit (column 19, lines 8-21).

With regard to claim 20, Ohuchi discloses wherein third determination unit is operable to determine that the large block is a halftone-dot region if first determination unit determines that the calculated number of isolated points in the large blocks equals or exceeds the threshold value (column 19, lines 54-61), and second determination unit determines that the predetermined number of isolated point counters have each counted at least one isolated point in the corresponding small block contained in the large block (column 20, lines 39-52).

With regard to claim 21, Ohuchi discloses wherein the number of isolated points contained in the large block equals the number of isolated points that small block

isolated point calculation unit calculates for each small block composing the large block (column 18, lines 15-21).

With regard to claim 22, Ohuchi discloses wherein large block isolated point calculation unit is operable to calculate the number of isolated points contained in the large block by calculating the number of isolated points contained in a plurality of contiguous small blocks within a predetermined area of the image data (column 18, lines 15-31).

Claims 4, 5, 9, 10, 17, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohuchi (US 5,025,481) as applied to claim 1 above, and further in view of Kingetsu et al. (Kingetsu) (US 6,268,935).

With regard to claim 4, Ohuchi differs from claim 4, in that he does not explicitly teach an image processing unit for correcting the image data based on the results of determination by halftone-dot region determination unit.

Kingetsu discloses an image processing unit for correcting the image data based on the results of determination by halftone-dot region determination unit (e.g., blocks 18-25, 27-36, figure 1).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi to include an image processing unit for correcting the image data based on the results of determination by halftone-dot region determination unit as taught by Kingetsu. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohuchi by the teaching of Kingetsu to correct digital image.

With regard to claim 5, Kingetsu discloses further comprising: an image forming unit which performs image formation based on the image data corrected by image processing unit (e.g., bit map formation section 26, figure 1).

With regard to claim 9, the subject matter is similar to claim 4. Therefore the rejection on claim 9 is set forth as above claim 4.

With regard to claim 10, the subject matter is similar to claim 5. Therefore the rejection on claim 10 is set forth as above claim 5.

With regard to claim 17, Kingetsu discloses further comprising a character determination unit (e.g., dot detection section, column 3, lines 23-26) for determining whether at least one character region exists in the image data, wherein: image processing (e.g., blocks 18-25, 27-36, figure 1) unit is operable to correct the image data based on the results of determination by halftone-dot region determination unit and character determination unit (e.g., dot detection section, discrimination section, figure 1); and image forming unit is operable to perform image formation based on the image data corrected by image processing unit (e.g., bit map formation section 26, figure 1).

With regard to claim 23, Kingetsu discloses further comprising a character determination unit for determining whether at least one character region exists in the image data (column 3, lines 22-26), wherein: image processing unit is operable to correct the image data based on the results of determination by halftone-dot region determination unit and character determination unit (column 4, lines 20-37); and image

forming unit is operable to perform image formation based on the image data corrected by image processing unit (e.g., block 26, figure 1, column 12, lines 30-36).

With regard to claim 24, Kingetsu discloses an image processing method as claimed in claim 11, further comprising the steps of: correcting the image data based on the results of determination of determining step (column 4, lines 20-37); and forming images based on the corrected image data (e.g., block 26, figure 1, column 12, lines 30-36).

With regard to claim 25, Kingetsu discloses an image processing method as claimed in claim 14, further comprising the steps of: correcting the image data based on the results of determination of determining step (column 4, lines 20-37); and forming images based on the corrected image data (e.g., block 26, figure 1, column 12, lines 30-36).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is (571)270-1121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang N Vo/
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625